PRODUCT ACCEPTANCE TEST

1.0 PURPOSE OF TEST

1.1 General

The Product Acceptance Test (PAT) provides a uniform system of procedures that an integrated ATS system/equipment conforms to contract requirements. These requirements pertain to the inspections and tests necessary to substantiate individual components and overall system operability. Testing will be conducted in accordance with the procedures detailed herein. The USG retains the right to examine or test any contractual requirement.

1.2 Safety Considerations

All normal safety practices should be observed during operational/functional testing of the ATS equipment. Test personnel must ensure that all personnel and equipment are clear of target areas, moving targets, and hostile fire simulators during equipment operation. High voltages may be present in electrical enclosures. Safety precautions for handling high voltage equipment must be followed. Death on contact may result if personnel fail to observe safety precautions.

1.3 Scope

The PAT involves a dual approach to equipment testing (1) system operational testing and (2) functional testing and visual inspection of randomly selected downrange components. Operational testing involves all the range equipment as a whole system while functional testing is intended to verify that each type of downrange device performs all its required functions.

2.0 HARDWIRED SYSTEM TEST

2.1 Operational Test

This test is designed to ensure proper operation of all the range equipment as a whole system, and to ensure that each piece of equipment is exercised sufficiently to identify infant mortality failures. Commands will be reported by the RCS to each target on the range, and status will be reported by the targets to the RCS.

2.1.1 Test Scenario

A 50 cycle hardwired (HW) and 20 cycle radio controlled (RC) test scenario will be prepared and verified by the contractor prior to conducting the operational test. Since each range to be tested under this PAT varies in configuration, a test scenario diskette will be generated for each range installation. A hard copy printout of the test scenario will be given to the Government representative on site prior to the start of the PAT.

2.1.2 Pre-Test

2.1.2.1 Turn-on the RCS computer

2.1.2.2 Run 50/HW and 20/RC cycle test scenario

2.1.2.3 During the 50/HW and 20/RC cycle test perform the following operations:

2.1.2.3.1 Manual override - The operator will manually stop, override, individually control targets and reenter the 50 cycle scenario at the point interrupted.

2.1.2.3.2 RCS Display

2.1.2.3.2.1 RCS displays scenario being run

2.1.2.3.2.2 RCS displays scenario tasks that are active

2.1.2.3.2.3 RCS displays the correct date and time

2.1.2.3.2.4 RCS displays scenario elapsed time

2.1.2.3.2.5 RCS displays hit status

2.1.2.3.2.6 RCS display shows graphic pictorial of the range similar in layout but not necessarily to scale.

2.1.2.3.3 Scenario Pause - During 50/HW and 20/RC cycle scenario running the operator will execute a single key pause of the scenario and maintain current target position and time in the scenario. Scenario will be resumed at the exact place that the pause occurred.

2.1.2.3.4 Emergency Stop - During the last cycle of the 50/HW and 20/RC cycle scenario the operator will execute an emergency stop. All targets will go to the down position without loss of scoring data.

2.1.2.3.5 Malfunction Detection - Randomly select several targets and turn power off to them. Activate the targets either manually or automatically, and verify that malfunctions are detected.

2.2 Functional Test

2.2.1 General

After completion of the Operational Test selected targets downrange will be examined. Each target will be exercised to establish that it and its associated simulators, if any, respond properly to RCS commands, and that status is reported correctly. In this manner proper operation of all intervening devices will also be established.

2.2.2 Sampling Plan

Sample size of the targets to be tested and examined will be established under Section 4 of the Performance Description. The actual targets to be examined will be determined by random selection at the choice of the Government representative. For the range itself to be accepted, each lot tested must be accepted.

2.2.3 Down Range Devices

Each target emplacement shall be assembled, constructed in a workmanlike manner. The area shall be neat, clean and free of debris Cables shall be arranged as neatly as possible. Specifically, as a minimum, the following items will be check:

2.2.3.1 All cables shall be secure and completely attached

2.2.3.2 Equipment covers shall be securely fastened

2.2.3.3 Equipment shall show no evidence of mistreatment such as dents, scratches, footprints, etc

2.2.4 Target Functional Test

Each target will demonstrate the following capabilities in the manual mode of operation

2.2.4.1 Stationary Infantry Target

2.2.4.1.1 Number of hits on target via live fire or tapping the hit sensor

2.2.4.1.2 Bob when hit

2.2.4.1.3 Hold when hit

2.2.4.1.4 Down when hit

2.2.4.1.5 MFS will light if applicable

2.2.4.1.6 SES will function, if applicable

2.2.4.1.7 Target raises

2.2.4.1.8 Target falls

2.2.4.2 Moving Infantry Target

2.2.4.2.1 Number of hits on target via live fire or tapping the hit sensor

2.2.4.2.2 Bob when hit

2.2.4.2.3 Hold when hit

2.2.4.2.4 Down when hit

2.2.4.2.5 MFS will light if applicable

2.2.4.2.6 SES will function, if applicable

2.2.4.2.7 Target raises

2.2.4.2.8 Target travels from one end of track to the other

2.2.4.2.9 Target lowers

2.2.4.2.10 Target has 3 different speeds

NOTE: The number of targets tested and the location of the shots will be at the discretion of the USG. Weapon and ammunition will be furnished by the contractor or provided by the Fort/location receiving the range installation.

3.0 RADIO CONTROLLED SYSTEM TEST

System test for radio controlled ranges will be the same as hardwired with the following exceptions.

- In lieu of 50 cycles during the operational test only 20 cycles will be required

- Operational test will use the RFCCS and/or the HHC to run the cycle test scenario

- During functional testing the RFCCS and/or the HHC will be used for manual command of the test targets.

4.0 SPECIAL TOOLS AND TARGETRY

- Special tools and targetry will be examined for count, condition and correctness